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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,506	04/09/2001	Johnson C.H. Tzu	004728.P055	6726

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07/17/2002

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EXAMINER

ALCALA, JOSE H

ART UNIT PAPER NUMBER

2827

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,506

Applicant(s)

TZU ET AL.

Examiner

Jose H Alcalá

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites in lines 11-12: "tapes connected between said die and an end of said plurality of first leads over said dummy chip". This statement is vague, since it is not clear what is meant by "**connecting between**", it is not clear how an object can be connecting between two other objects, it is suggested to change the recitation to "**disposed between**" or simply "**connecting**".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al. (US Patent No 5,227,662) in view of Lee et al. (US Patent No 6,087,722).

As best understood by the examiner:

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Regarding Claims 1 and 7, Ohno teaches a lead frame package with dummy chip comprising: a lead frame (Reference Number 10) with a plurality of first leads (Reference Number 28); a molding compound (Reference Number 38); a dummy chip (Reference Number 40) and a die (Reference Number 34), wherein said molding compound encapsulates said die and said dummy chip (See Figure 7), said dummy chip being arranged on a lower portion of said molding compound (See Figure 7), said die being stacked on an upper surface of said dummy chip (See Figure 7); and a plurality of bonding wires (Reference number 36) connecting between said die and an end of said plurality of first leads over said dummy chip.

Ohno fails to teach that the die is stacked on an upper surface of said dummy chip by using an adhesive material. Lee teaches a chip (Reference number 71) attached to a pad (dummy chip) (Reference number 82), using an adhesive material (Reference number 92). In addition, Lee teaches a chip (Reference number 11) attached to another chip (Reference number 21). It would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine the teachings of Ohno and Lee, in order to attach the die to the dummy chip with an adhesive layer. Thus, stabilizing the package and avoiding undesired surfaces of the lead frame to be exposed.

Regarding Claim 2, Ohno teaches that said dummy chip is formed of silicon (Column 5, line 44).


Regarding Claim 3, Ohno teaches that said dummy chip refers to a substrate without IC formed therein (See figure 7).

Regarding Claim 4, Ohno teaches that said dummy chip is exposed by said molding compound (See Figure 7).

Regarding Claim 5, Ohno teaches a tape (Reference Number 28) to fix said plurality of first leads.

Regarding Claim 6, Ohno fails to teach that said lead frame further comprises a plurality of second leads outside said dummy chip. Lee teaches a plurality of first leads (Reference Numbers 32 and 33) and a plurality of second leads (Reference numbers 31) outside a second chip (Reference number 21). See Figure 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to further modify the combination of the teachings of Ohno and Lee as stated supra for claim 1, in order to further comprises a plurality of second leads outside said dummy chip. Thus, stabilizing the package and adding more strength in order to hold the die more firmly over the dummy chip.

Response to Arguments

5. Applicant's arguments filed 2/21/02 have been fully considered but they are not persuasive. Applicant argues that the inner lead portion **12** of the lead frame 10 of Ohno does not connect to the semiconductor chip 34, which is different from the present invention that the inner lead of the lead frame connects to the die directly through the bonding wire. Examiner  points out that the inner lead portion **28** of the lead frame 10 of Ohno, does connect to the semiconductor chip

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directly through the bonding wire 36, anticipating those limitations of the present invention.

Applicant further argues that in the case that the leads 28 and plastic film 22' are omitted from the structure provided by the combination of Ohno et al. and Lee et al., the above purpose of the lead frame 10 of Ohno et al. would be destroyed, making the disclosures of the two uncombinable. In response to applicant's argument it is noted that, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Furthermore, the rejection never mentions that leads 28 and plastic film 22' are omitted from the structure, rather the rejection relies on element 28, proving that the leads 28 are present in the structure.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose H Alcala whose telephone number is (703) 305-9844. The examiner can normally be reached from Monday to Friday.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (703) 308-3301. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JHA
July 15, 2002



KAMAND CUNEO
PRIMARY EXAMINER